Natural Language Processing MUD

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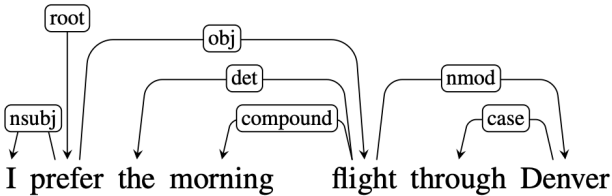
November 20, 2024

Questions I can't answer yet

"What is a better library to use that will judge sentiment not just using adjectives?"

Dependency Grammars I



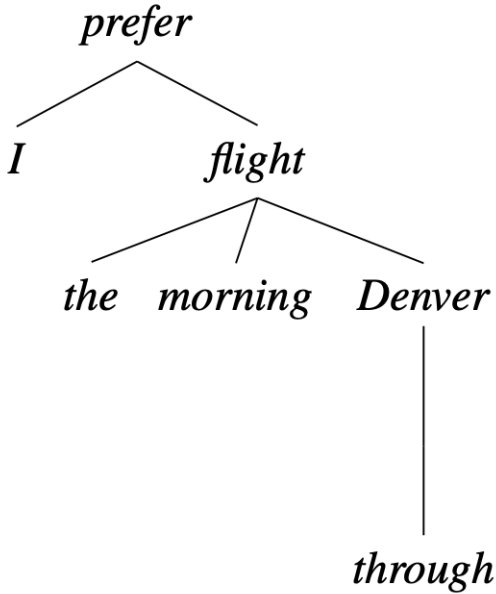
(19.1)

Relations among the words are illustrated above the sentence with directed, labeled arcs from **heads** to **dependents**. We call this a **typed dependency structure** because the labels are drawn from a fixed inventory of grammatical relations. A *root* node explicitly marks the root of the tree, the head of the entire structure.

Key new idea: Every sentence as a "root". Here it is the verb.

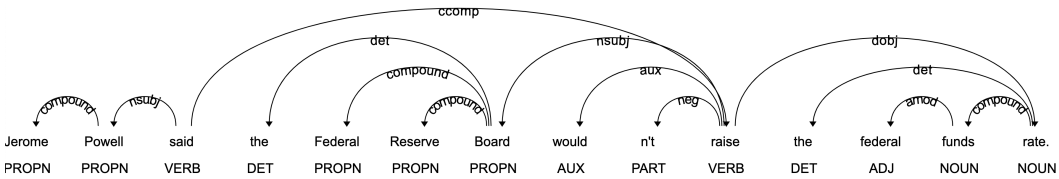
Source: Speech and Language Processing textbook by Jurasfky and Martin. **Link**

Dependency Grammars II



Revisit our example

```
import spacy
nlp = spacy.load("en_core_web_sm")
doc = nlp("Jerome Powell said the Federal Reserve Board wouldn't
 ↪  raise the federal funds rate.")
```



said has children but not ancestors

```
for token in doc:
    if token.text == "said":
        for child in token.children:
            print(f"{child.text}")
```

```
Powell
raise
.
```

```
for token in doc:
    if token.text == "said":
        for anc in token.ancestors:
            print(f"{anc.text}")
```

Sentiment Analysis: subjectivity

It's just using labels word by word (but for subjective vs objective instead of positive vs negative)

```
from spacytextblob.spacytextblob import SpacyTextBlob
nlp = spacy.load('en_core_web_sm')
nlp.add_pipe('spacytextblob')
doc = nlp("I love this beautiful painting; it's so amazing!")
print(doc._.blob.subjectivity)
print([token._.blob.subjectivity for token in doc])
```

```
0.8333333333333334
[0.0, 0.6, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.9, 0.0]
```